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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,805	01/27/2004	David H. Hanes	200310590-1	2459

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INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER

SWERDLOW, DANIEL

ART UNIT	PAPER NUMBER
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2615

MAIL DATE	DELIVERY MODE
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06/20/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/765,805	HANES, DAVID H.
Examiner	Art Unit	
Daniel Swerdlow	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- o Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 27 January 2004.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-24 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-24 is/are rejected.
 7) Claim(s) 20-22 and 24 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date _____

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____
 5) Notice of Informal Patent Application
 6) Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 19 through 24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.
3. Regarding Claim 19, because of the broad nature of the adjective “operable”, the recitation in the preamble of the claim is not sufficient to patentably distinguish from a mere listing of instructions that could not directly be executed by a processor. A preamble that would conform to current Office guidelines would recite: -- A computer-readable medium storing a computer program containing instructions that when executed cause a processor to:--.
4. Claim 20 through 24 incorporate the non-statutory matter of Claim 19 by dependence.
5. To advance prosecution, examiner treats the claims below on the merits based on the interpretation that the preamble is intended to read as suggested.

Claim Objections

6. Claims 20 through 22 and 24 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.
7. Claims 20 through 22 and 24 recite limitations with respect to the operability of the processor executing the instructions. The capability of the processor is not limiting of the

structure of the computer-readable medium. A recitation that would properly limit the base claim would recite: --The computer-readable medium according to claim 19, wherein the computer program stored thereon further contains instructions that when executed cause the processor to...--.

8. To advance prosecution, examiner treats the claims below on the merits based on the interpretation that the claims are intended to read as suggested.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1, 9 through 11, 14 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Ji (US Patent 5,497,206).

11. Regarding Claim 1, Ji discloses a circuit (Fig. 2) that: receives digitized audio signals that together correspond to the digital audio stream claimed from A/D converters (21, 22) (column 3, lines 1-4); automatically determines if the input audio signal is stereo or mono (i.e., comprises a single channel of audio data) (column 3, lines 30-33); and supplying a quasi-stereo output (i.e., a multi-channel audio stream) having two channels each comprising the content of the single input channel (column 4, lines 2-7).

12. Regarding Claim 9, Ji further discloses transmitting monophonic analog audio inputs (1, 2) to A/D converters (21, 22) for conversion to a digital audio stream (A, B) (column 3, lines 1-4).

13. Regarding Claim 10, Ji further discloses inclusion of an analog video input 3 to a video detecting device 31 that produces a digital video detection signal C.

14. Regarding Claim 11, Ji further discloses an exclusive or gate 23 that evaluates a bit sequence of the digitized audio signals that together correspond to the digital audio stream claimed (column 3, lines 29-33).

15. Regarding Claim 14, Ji discloses a circuit (Fig. 2) comprising: A/D converters (21, 22) that receive analog audio inputs (1, 2) and convert them to digital audio signals (A, B) (column 3, lines 1-4); and automatically determines if the input audio signal is stereo or mono (i.e., comprises a single channel of audio data) (column 3, lines 30-33); and an exclusive or gate 23 and transistor Q1 arrangement that corresponds to the application claimed and generates a quasi-stereo output (i.e., a multi-channel audio stream) having two channels each comprising the content of the single input channel (column 4, lines 2-7).

16. Regarding Claim 16, Ji further discloses analog audio signal inputs (1, 2) that correspond to the interface claimed.

17. Claims 1 through 7, 19 and 21 through 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Virolainen et al. (WO 2003/107591 A1).

18. Regarding Claim 1, Virolainen discloses a user terminal (Fig. 4; p. 18, lines 20-32) that receives a coded stereo signal 408 that corresponds to the digital audio stream claimed; detects a

frame error in the stream (Fig. 8, step 800) corresponding to a loss of data in one stereo channel (Figs. 7, 8) indicating the stream comprises a single channel at that time; replacing the missing frame (i.e., generating a multi-channel audio stream) by copying a frame from the remaining channel (i.e., having two audio channels each comprising the single channel of audio data) (Fig. 8, steps 806-812; p. 22, line 18-p. 23, line 3).

19. Regarding Claim 2, Virolainen further discloses the audio stream comprising a sequence of audio frames (Figs. 6, 7).

20. Regarding Claim 3, Virolainen further discloses copying data from frame n_{left} (Fig. 6) or frame n_{right} (Fig. 7), either of which corresponds to the first frame claimed.

21. Regarding Claims 4 and 5, Virolainen further discloses interleaving the left and right channel data (p. 18, lines 29-32). As such, the inserted frame comprising copied data is inserted after frame n_{left} (Fig. 6) or frame n_{right} (Fig. 7), either of which corresponds to the first frame claimed and the copied data is interleaved with frame n_{left} (Fig. 6) or frame n_{right} (Fig. 7), either of which corresponds to the first frame claimed.

22. Regarding Claim 6, Virolainen further discloses duplicating data within frame n_{left} (Fig. 6) or frame n_{right} (Fig. 7), either of which is part of a sequence of frames (frame #'s $(n-1)_{left}, n_{left}, (n-1)_{left}$) (Fig. 6) or (frame #'s $(n-1)_{right}, n_{right}, (n-1)_{right}$) (Fig. 7).

23. Regarding Claim 7, Virolainen further discloses duplicating data from the sequence of frames that does not have missing data (i.e., the sequence that was determined to comprise audio data).

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24. Regarding Claim 8, Virolainen further discloses detecting errors in a plurality of consecutive frames (i.e., a plurality of frames comprise monophonic audio data) (p. 6, lines 21-24).

25. Regarding Claim 19, Virolainen discloses a user terminal (Fig. 4; p. 18, lines 20-32) that receives a coded stereo signal 408 that corresponds to the digital signal claimed and comprises two channels either one of which corresponds to the monophonic audio data claimed; detects a frame error in the stream (Fig. 8, step 800) corresponding to a loss of data in one stereo channel (Figs. 7, 8) indicating the stream comprises a single channel at that time; replaces the missing frame by copying a frame from the remaining channel (i.e., generates an audio signal having two channels, each comprising the monophonic audio data) (Fig. 8, steps 806-812; p. 22, line 18-p. 23, line 3). Further, Virolainen discloses operation of the user terminal by a controller with associated memory (Fig. 2, reference 290, 292, 240, 242; p. 17, line 34-p. 18, line 5) and, as such, discloses a computer readable medium (292, 242) storing instructions for a processor (290, 240).

26. Regarding Claims 21 and 22, Virolainen further discloses duplicating audio data within frame # n_{left} (Fig. 6) or frame # n_{right} (Fig. 7), either of which is part of a sequence of frames (frame #'s $(n-1)_{left}, n_{left}, (n-1)_{left}$) (Fig. 6) or (frame #'s $(n-1)_{right}, n_{right}, (n-1)_{right}$) (Fig. 7).

27. Regarding Claim 23, Virolainen further discloses receiving an audio signal comprising a sequence of frames ((frame #'s $(n-1)_{left}, n_{left}, (n-1)_{left}$) (Fig. 6) or (frame #'s $(n-1)_{right}, n_{right}, (n-1)_{right}$) (Fig. 7)) and replacing a missing frame by copying and inserting a frame from the other channel (Fig. 8, steps 806-812; p. 22, line 18-p. 23, line 3).

28. Regarding Claim 24, Virolainen further discloses inclusion of video signals (p. 14, lines 16-20).

Claim Rejections - 35 USC § 103

29. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

30. Claims 12, 13, 15, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ji in view of admitted prior art.

31. Regarding Claims 12 and 13, as shown above apropos of Claim 11, Ji anticipates all elements except frame headers with bit sequences indicating multi-channel and stereo audio content. Applicant admits that the well-known MPEG standard includes such headers (specification, pp. 6-7). The advantages of MPEG were well known and include efficient compression and standardization. As such, it would have been obvious to one skilled in the art at the time of the invention to apply well known MPEG encoding to the system taught by Ji for the purpose of realizing the aforesaid advantages.

32. Regarding Claim 15, as shown above apropos of Claim 14, Ji anticipates all elements except a video capture card. Applicant admits that the use of a video capture card was well known and permits the transfer of analog video and audio onto digital media (specification, p. 1). As such, it would have been obvious to one skilled in the art at the time of the invention to apply

the well known video capture card to the system taught by Ji for the purpose of realizing the aforesaid advantages.

33. Regarding Claim 17, as shown above apropos of Claim 14, Ji anticipates all elements except mastering software. Applicant admits that the use of mastering software was well known and permits the transfer of analog video and audio onto digital media (specification, p. 1). As such, it would have been obvious to one skilled in the art at the time of the invention to apply the well known mastering software to the system taught by Ji for the purpose of realizing the aforesaid advantages.

34. Regarding Claim 18, applicant further admits that the use of an optical storage medium was well known and desirable and permits durable storage of analog video and (specification, p. 1). As such, it would have been obvious to one skilled in the art at the time of the invention to apply the well known optical storage to the combination made obvious by Ji and admitted prior art for the purpose of realizing the aforesaid advantages.

35. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Virolainen in view of admitted prior art.

36. Regarding Claim 20, as shown above apropos of Claim 19, Virolainen anticipates all elements except frame headers with bit sequences indicating multi-channel audio content. Applicant admits that the well-known MPEG standard includes such headers (specification, pp. 6-7). The advantages of MPEG were well known and include efficient compression and standardization. As such, it would have been obvious to one skilled in the art at the time of the

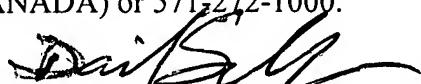
invention to apply well known MPEG encoding to the system taught by Virolainen for the purpose of realizing the aforesaid advantages.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Swerdlow whose telephone number is 571-272-7531. The examiner can normally be reached on Monday through Friday between 7:30 AM and 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh H. Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Daniel Swerdlow
Primary Examiner
Art Unit 2615

ds
13 June 2007